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Conference Abstract

Taming Extinct Beasts: Strategies, Projects, and Metrics for Managing the World's Largest Fossil Collection, the United States National Fossil Collection at the Smithsonian National Museum of Natural History

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Abstract

The Smithsonian National Museum of Natural History (NMNH) Department of Paleobiology (Paleo) is the steward of the world's largest fossil collection. The collection is made of 40 million objects housed in 11,000 cases plus 2,600 square meters in oversized housing, all spread over four separate facilities. The collection contains fossil representatives of the entire history of life. The Smithsonian has been accessioning fossils since the late 1880s, and the collection is actively growing through field research of museum scientists as well as through the acquisition of sizeable orphaned collections. The collection database (Axiell EMu) contains about 660,000 specimen catalog records of the estimated 14,000,000 records required to digitally database the entire collection. NMNH Paleo strives to care for and manage the collection in a way that meets the highest standards for collections accessibility and accountability. Our collections management priorities are:

1. ensuring the collections are physically preserved, housed, and arranged to ensure long-term preservation and accessibility;

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2. making the collections holdings and associated data digitally discoverable and accessible through Smithsonian data-management systems and global data-sharing utilities;
3. establishing and implementing best-practice systems for managing research-quality specimen data and data-lifecycle management;
4. implementing sustainable workflows for mass-digitization specimen databasing, 2D and 3D imaging, georeferencing, and transcription of relevant collections labels and analog records;
5. requiring all registration activities including acquisitions, loans, borrows, disposals, shipments, permits, and repository agreements meet the highest ethical and legal standards for documentation;
6. leveraging our professional expertise in collections management to train students and avocational collectors in fossil collections care; and
7. to actively collaborate with paleobiologists and other museum researchers and stakeholders to advance the discipline of paleobiology and collections-based research.

Addressing these priorities at the scale of the NMNH Paleo collection requires a deliberate strategy and disciplined project management, especially given that staff and resources are limited. The NMNH and the overarching Smithsonian organizational structure use several museum- and institution-wide metrics and reporting systems for evaluating the collections against its strategic goals. Within NMNH Paleo, these metrics are applied to and enhanced by projects that address the priorities listed above. The projects presented here were developed as part of a strategy to meet departmental, museum, and institutional goals. They are integrated across the department and include surveys, assessments, and the development of data standards and workflows. The success of the projects is most dependent on strong communication and teamwork among the department staff.

Keywords

Paleontology, Paleobiology, Collections Metrics, Management Strategy

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